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|--|-------------|----------------------|---------------------------------|-----------------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO.            |
| 09/930,990   | 08/17/2001  | Wen-Shi Huang        | 0941-1282PUS1                   | 8682                        |
| 2292 7590 11/29/2007<br>BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | EXAMINER<br>PATEL, NIHIR B      |                             |
|  |             |                      | ART UNIT<br>3772                | PAPER NUMBER                |
|  |             |                      | NOTIFICATION DATE<br>11/29/2007 | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

Application No.

09/930.990

**Applicant(s)**

HUANG ET AL.

**Examiner**

Nihir Patel

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3772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on August 29<sup>th</sup>, 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8, 10-23 and 25-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 10-23, and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed August 29<sup>th</sup>, 2007 have been fully considered but they are not persuasive. First the applicant argues that Lopatinsky does not teach or show that the motor is mounted on the cover. The examiner disagrees. Lopatinsky does teach that the motor is mounted on the cover (see column 8 lines 24-30; **Lopatinsky states that "Centrifugal blower may be secured to the axle (the axle being part of the motor) by means of bearing. To ensure that the entire forced airflow passes by heat exchanging channels, the latter are covered by plate from above. In this case plate locks axle by means of straps"**). The applicant also argues that Lopatinsky does not teach the concept that there is a distance between the rotary shaft and the second cooling fins with the entire rotary shaft being located above the lower portion of the second cooling fins. The examiner disagrees. Lopatinsky does teach the concept that there is a distance between the rotary shaft and the second cooling fins with the entire rotary shaft being located above the lower portion of the second cooling fins (see column 8 lines 29-40; **Lopatinsky clearly states that "the central part located below the blower, when the blower rotates the airflow first blows over the central part"**). Indicating that there is a distance between the rotary shaft being above the lower portion of the second cooling fins.

The applicant argues that Lopatinsky fails to show that the motor is mounted on the cover. The phrase "the motor is mounted on the cover is not specifically claimed.

As stated in the previous office action, It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lopatinsky's invention by designing a heat sink that is made from the group consisting of aluminum, aluminum alloy,

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copper, copper alloy and the combination thereof, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 8, 10-12, 14-17, 19-22 and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Lopatinsky et al. (US 6,659,169).

4. As to claim 8, Lopatinsky teaches a cooler for electronic devices that comprises a centrifugal fan 105 (see column 7 lines 20-35) including a rotary shaft (see figure 8), a motor and a plurality of blades 107 (see column 7 lines 40-50); a heat sink 101 (see figure 8), including a plurality of first cooling fins 112 (see figure 8) and a plurality of second cooling fins (see column 8 lines 10-20), wherein an annular cavity is defined between the first cooling fins and the second cooling fins (see figure 8), and the second cooling fins include a lower portion (see figure 8); and a cover 115 (see figure 7) formed on the heat sink and the centrifugal fan; wherein the motor for driving the rotary shaft is mounted onto the cover to be away from the heat sink, the blades are located in the cavity, and there is a distance between the rotary shaft and the second cooling fins so that the entire rotary shaft is located above the lower portions of the

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second cooling fins, and the rotary shaft is positioned away from the lower portions of the second cooling fins (see **figure 8**).

5. As to **claims 10, 15 and 20**, Lopatinsky teaches an apparatus wherein the cover serves an air seal to keep airtight (see **figure 8**).

6. As to **claims 11, 16 and 21**, Lopatinsky teaches an apparatus wherein the annular cavity matches the centrifugal fan (see **figures 7 and 8**).

7. As to **claims 12, 17 and 22**, Lopatinsky teaches an apparatus wherein the cooling fins are distributed under and around a region extending from a central region of the centrifugal fan to a periphery of the centrifugal fan (see **figures 7 and 8**; see **column 8 lines 10-20**).

8. As to **claim 14**, Lopatinsky teaches a cooler for electronic devices that comprises a heat sink **101** (see **figure 8**), including a plurality of first cooling fins **112** (see **figure 8**) and a plurality of second cooling fins (see **column 8 lines 10-20**), wherein a cavity is defined between the first cooling fins and the second cooling fins, and the second cooling fins include a lower portion (see **figure 8**); a cover **115** (see **figure 7**) connected to the heat sink and having corners directly contacted to the first cooling fins (see **figure 8**); and a centrifugal fan **105** (see **column 7 lines 20-35**) including a rotary shaft, a motor, and a plurality of blades **107** (see **figure 8**), wherein the motor for driving the rotary shaft is mounted onto the cover to be away from the heat sink (see **figure 8**), the blades are located in the cavity, the entire rotary shaft is located above the lower portion of the second cooling fins and the rotary shaft is positioned toward the cover to be away from the lower portion of the second cooling fins (see **figure 8**).

9. As to **claim 19**, Lopatinsky teaches a cooler for electronic devices that comprises a heat sink **101** (see **figure 8**), including a plurality of first cooling fins **112** (see **figure 8**) and a

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plurality of second cooling fins (see **column 8 lines 10-20**), wherein a cavity is defined between the first cooling fins and the second cooling fins, and the second cooling fins include a lower portion (see **figure 8**); a centrifugal fan **105** (see **column 7 lines 20-35**) having an axial direction and a radial direction and including a rotary shaft, a motor, and a plurality of blades **107** (see **figure 8**), a cover **115** (see **figure 7**) including plurality of inlets, mounted onto the heat sink and the centrifugal fan, wherein air from ambient is flowed in the axial direction of the centrifugal fan into the heat sink from the inlets of the cover, and is flowed in the radial direction of the centrifugal fan and out of the heat sink (see **figures 1, 7 and 8**); wherein the motor for driving the rotary shaft is mounted onto the cover to be away from the heat sink (see **figure 8**), the blades are located in the cavity, and there is a distance between the rotary shaft and the second cooling fins so that the entire rotary shaft is located above the lower portion of the second cooling fins (see **figure 8**), and the rotary shaft is positioned away from the lower portion of the second cooling fins (see **figure 8**).

10. As to **claims 25, 26 and 27**, Lopatinsky teaches an apparatus wherein the motor is between the cover and the second cooling fins (see **figure 8**).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims **13, 18 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopatinsky (US 6,659,169).

14. As to claims **13, 18 and 23**, Lopatinsky substantially discloses the claimed invention, see rejection of claims 8, 14 and 19 above, but does not disclose a heat sink that is made of a material chosen from the group consisting of aluminum, aluminum alloy, copper, copper alloy and the combination thereof. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lopatinsky's invention by designing a heat sink that is made from the group consisting of aluminum, aluminum alloy, copper, copper alloy and the combination thereof, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

#### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nihir Patel whose telephone number is (571) 272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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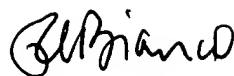
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Nihir Patel



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